

IN THE CLAIMS

1. A centrifugal pellet dryer, comprising:

a reservoir section;

a dryer section; and

a motor section;

5 wherein the dryer section further comprises a conduit for introduction of forced dry air into the dryer.

2. The dryer of claim 1, wherein the dry air is preheated before introduction into the dryer.

3. The dryer of claim 1, wherein the dryer section includes a rotor disposed

10 therein, the rotor having a lower end, the dryer further comprising:

a moist air discharge port disposed in the reservoir section below the lower end of the rotor; and

a moist air discharge baffle, the baffle fixedly disposed proximally adjacent to and in front of the moist air discharge port.

15 4. The dryer of claim 3, wherein the reservoir section further comprises a moist air discharge pipe, the pipe fluidly connected to the moist air discharge port.

5. The dryer of claim 4, wherein the reservoir section further comprises a fan, the fan being in fluid communication with the moist air discharge pipe and is further configured to assist in the removal of the forced air.

6. The dryer of claim 5, wherein the reservoir section further comprises:

a water outlet pipe, the opening of the pipe disposed near the bottom of the reservoir and in fluid communication with the reservoir section;

a sloped bottom, with an upper level and a lower level, the lower level positioned adjacent the water outlet pipe; and

an air trap baffle, the baffle fixedly attached proximally adjacent to and in front of the opening of the water outlet pipe.

5 7. The dryer of claim 1, wherein the dryer section further comprises:

a canister having a lower end with a perforated bottom pan mounted thereto, the canister further having an inner surface;

a perforated screen mounted in the canister,

a rotor, the rotor disposed within the screen, the screen and canister being positioned circularly about the rotor; and

a volume defined by the space between the inner surface of the canister and the perforated screen.

10 15 8. The dryer of claim 1, further comprising the dryer section being hingedly attached to the reservoir section.

9. A centrifugal pellet dryer, comprising:

a dryer section, wherein the dryer section further comprises

a canister having a lower end with a perforated bottom pan mounted thereto, the canister further having an inner surface;

5 a perforated screen mounted within the canister;

a rotor having a lower end and disposed within the screen, the screen and canister being positioned circularly about the axis of rotation; and

a volume defined by the space between the inner surface of the canister and the perforated screen;

10 a reservoir section, wherein the reservoir section further comprises

a moist air discharge port disposed in the reservoir section below the lower end of the rotor, the moist air discharge port in fluid communication with the volume defined by the space between the inner surface of the canister and the perforated screen;

15 a moist air discharge baffle, the baffle fixedly disposed proximally adjacent to and in front of the moist air discharge port;

a moist air discharge pipe, the pipe in fluid communication with the moist air discharge port;

20 a fan, the fan being in communication with the moist air discharge pipe and being further configured to assist in the removal of air from the reservoir section;

a water outlet pipe, the opening of the pipe disposed near the bottom of the reservoir section and in fluid communication with the reservoir section;

25 a sloped reservoir section bottom, with an upper level and a lower level, the lower level positioned adjacent the water outlet pipe to facilitate removal of water; and

an air trap baffle, the baffle fixedly attached proximally adjacent to and in front of the opening of the water outlet pipe, wherein the dryer section is hingedly attached to the reservoir section is hingedly attached to the dryer section; and

a motor section.

5 10. A method for increasing the drying efficiency of centrifugal pellet dryers, the method comprising:

adding the slurry to the dryer's inlet pipe and processing the slurry through the dryer's rotor;

forcing dry air into the dryer section of the dryer;

10 providing a conduit for the forced dry air to travel downwardly through the dryer section and into the reservoir section; and

removing the moistened air from the reservoir section.

11. The method of claim 10, further comprising forcing dry air into the product discharge chute of the dryer.

15 12. The method of claim 10, further comprising facilitating removal of the moistened air from the reservoir section by use of a fan.

13. The method of claim 10, further comprising preheating the dry air before forcing the dry air into the dryer section.

14. A method for increasing the drying efficiency of centrifugal pellet dryers, comprising:

adding the slurry to the dryer's inlet pipe and processing the slurry through the dryer's rotor;

5 forcing preheated dry air into the product discharge chute of the dryer;

providing a conduit for the forced dry air to travel downwardly through the dryer section and into the reservoir section; and

facilitating removal of the moistened air from the reservoir section by adding a fan.